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RTD UPDATES: Pest Scouting

Data updates from the Resources and Technology Division

Economic Research Service
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Pest Scouting on Tomatoes, Lettuce, and Strawberries

- Scouting for pests (insects, weeds, or disease) occurred on 60-66 percent of surveyed farms growing tomatoes or strawberries in 1992, and on 92 percent of those growing lettuce.
- The operator or a family member most often did the scouting on tomato and strawberry farms; lettuce growers more frequently used commercial services or chemical dealers.
- Farms doing pest scouting more frequently used some other pest control practices and a different mix of pesticide active ingredients than did those doing no scouting.

This issue of **RTD UPDATES** summarizes field level data on pest scouting collected as part of the *1992 Vegetable Chemical Use Survey*. Field level data were collected for head lettuce in two major growing States, fresh market tomatoes in eight States, and strawberries in nine States. In addition to pest scouting information, data were also gathered on cropping practices, chemical use, costs and returns, labor use, irrigation, land tenure, and other farm and farmer characteristics.

Scouting for pests generally forms the basis of most integrated pest management programs. Scouting can help farmers more accurately identify pest populations and may improve thereby the timing and selection of pesticide applications. In addition, scouting to determine the impact of pest pressure on crop yield also helps farmers determine the economic threshold for pesticide applications.

Table 1 describes the extent of the field-level section of the *1992 Vegetable Chemical Use Survey*. Table 2 shows that most farmers use the same type of scout (self or family member, chemical dealers, or professional commercial scouts) for all pests, although some farmers use different scouts for different target pests such as insects, weeds, and disease. The three most commonly used pesticide active ingredients by crop, region, and use of scouting are described in table 3. In many cases, the chemicals used on a given crop vary by region, and by the use of scouting. Finally, table 4 presents information on other pest control practices used on farms by crop and use of scouting. The data suggest that farms that use scouting also use some other pest control practices more frequently than farms that do not use scouting.

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About RTD UPDATES

RTD UPDATES is a semimonthly series featuring data relating to agricultural resources, the environment, food safety, and technology. These **UPDATES** report recent data from surveys of farm operators and others knowledgeable about changing agricultural resource conditions, with only minimal interpretation or analysis. Please contact the individual listed at the end of the text for additional information about the data in this **UPDATE**. If you would like to be added to the mailing list or have other questions about **RTD UPDATES**, contact Richard Magleby, (202) 219-0436.

Percent of farms by scouting practices

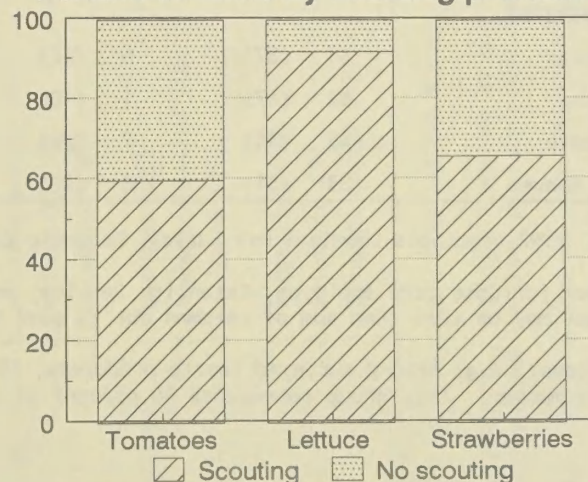


Table 1 -- States, number of farms, and crop acres in field level survey, 1992

State	Tomatoes		Lettuce		Strawberries	
	Number of farms	Total acres	Number of farms	Total acres	Number of farms	Total acres
Arizona	0	0	10	7,226	0	0
California	38	2,038	26	21,933	77	5,136
Florida	63	22,563	0	0	50	1,203
Georgia	12	147	0	0	0	0
Michigan	52	362	0	0	70	514
New Jersey	39	413	0	0	35	93
New York	43	422	0	0	73	437
North Carolina	31	238	0	0	52	291
Oregon	0	0	0	0	73	1,275
Texas	23	197	0	0	0	0
Washington	0	0	0	0	19	469
Wisconsin	0	0	0	0	54	370
Total	301	26,380	36	29,159	503	9,788

Source: 1992 Vegetable Chemical Use Survey, Economic Research Service and National Agricultural Statistics Service, USDA.

Table reads: e.g. "Thirty-eight tomato farms in California were surveyed, representing a total of 2,038 acres of tomato production."

Table 2 -- Use of pest scouting on surveyed farms, by crop, pest, and type of scouting, 1992

Crop and pest	Type of scouting								Total scouting 2/	No scouting		
	Self or family		Chemical dealer		Commercial service		Other 1/					
Percent of surveyed farms (acres) by category												
TOMATOES												
Insects	45	(16)	2	(4)	10	(35)	3	(20)	60	(74)	41	(26)
Weeds	47	(24)	1	(0.2)	7	(26)	4	(23)	59	(73)	42	(27)
Disease	44	(18)	1	(0.8)	11	(33)	4	(22)	60	(74)	41	(26)
Any above	48	(24)	2	(4)	11	(35)	1	(23)	60	(74)	41	(26)
LETTUCE												
Insects	9	(6)	33	(20)	39	(44)	11	(29)	92	(99)	8	(0.8)
Weeds	36	(27)	19	(16)	19	(25)	14	(31)	88	(99)	12	(1.5)
Disease	11	(20)	36	(21)	36	(30)	9	(28)	92	(99)	8	(0.8)
Any above	36	(27)	36	(21)	39	(44)	17	(32)	92	(99)	8	(0.8)
STRAWBERRIES												
Insects	45	(37)	6	(16)	9	(15)	6	(14)	66	(82)	34	(18)
Weeds	52	(47)	4	(10)	5	(5)	5	(19)	66	(82)	34	(18)
Disease	45	(31)	7	(20)	9	(15)	5	(15)	66	(82)	34	(18)
Any above	53	(51)	8	(22)	10	(16)	7	(21)	66	(82)	34	(18)

Source: 1992 Vegetable Chemical Use Survey, Economic Research Service and National Agricultural Statistics Service, USDA.

1/ Other includes farm employee, Extension Service, and other unspecified methods.

2/ Total may be less than sum of columns due to some producers using more than one form of scouting on a given crop.

Table reads: e.g. "Among surveyed tomato producers, 45 percent scout their own fields for insects or have them scouted by a family member. This group represents 16 percent of surveyed tomato acreage."

Table 3 -- Most commonly used pesticide active ingredients, by crop, region, and use of scouting, 1992

Crop/Region	Insecticide ingredients		Herbicide ingredients		Fungicide ingredients	
	No scouting	Any scouting	No scouting	Any scouting	No scouting	Any scouting
TOMATOES						
(Percent of surveyed farms using most common active ingredients by type of pesticide and scouting)						
CA/TX	1. carbaryl (17) 2. esfenvalerate (17) 3. methomyl (17)	1. esfenvalerate (18) 2. bacillus thur (15) 3. methomyl (12)	1. trifluralin (64) 2. napropamide (18) 3. pebulate (9)	1. trifluralin (75) 2. pendithalin (25) 3. N/A 1/	1. chlorothalonil (41) 2. sulfur (23) 3. copper hydroxide (14)	1. chlorothalonil (67) 2. sulfur (17) 3. triadimefon (8)
FL/GA/NC	1. endosulfan (19) 2. methomyl (15) 3. esfenvalerate (13)	1. esfenvalerate (14) 2. endosulfan (13) 3. methamidophos (12)	1. metribuzin (35) 2. paraquat (32) 3. napropamide (9)	1. paraquat (55) 2. metribuzin (30) 3. napropamide (5)	1. chlorothalonil (30) 2. mancozeb (27) 3. copper hydroxide (21)	1. chlorothalonil (28) 2. mancozeb (28) 3. copper hydroxide (23)
MI/NJ/NY	1. carbaryl (40) 2. esfenvalerate (17) 3. azinphos-methyl (10)	1. azinphos-methyl (10) 2. esfenvalerate (17) 3. endosulfan (13)	1. trifluralin (48) 2. metribuzin (22) 3. napropamide (13)	1. metribuzin (38) 2. trifluralin (28) 3. napropamide (25)	1. chlorothalonil (45) 2. mancozeb (16) 3. copper hydroxide (13)	1. chlorothalonil (42) 2. mancozeb (17) 3. copper hydroxide (17)
LETTUCE						
AZ/CA	1. acephate (33) 2. permethrin (33) 3. dimethoate (33)	1. permethrin (16) 2. mevinphos (12) 3. cypermethrin (12)	1. pronamide (100) 2. N/A 3. N/A	1. pronamide (60) 2. benefin (40) 3. N/A	1. maneb (100) 2. N/A 3. N/A	1. maneb (40) 2. fosetyl-al (24) 3. iprodione (15)
STRAWBERRIES						
CA/OR/WA	1. azinphos-methyl (13) 2. endosulfan (13) 3. malathion (10)	1. malathion (12) 2. abamectin (10) 3. propargite (10)	1. simazine (35) 2. napropamide (35) 3. sethoxydim (18)	1. napropamide (46) 2. simazine (38) 3. sethoxydim (7)	1. captan (33) 2. vinclozolin (28) 3. benomyl (13)	1. captan (19) 2. vinclozolin (16) 3. benomyl (14)
MI/NJ/NY/WI	1. methomyl (20) 2. fenbutatin-oxide (16) 3. carbaryl (15)	1. methomyl (21) 2. fenbutatin-oxide (11) 3. mevinphos (12)	1. paraquat (36) 2. napropamide (28) 3. sethoxydim (12)	1. paraquat (40) 2. napropamide (24) 3. 2,4-D (10)	1. captan (36) 2. benomyl (17) 3. sulfur (12)	1. captan (33) 2. sulfur (16) 3. benomyl (10)
FL/NC	1. endosulfan (20) 2. malathion (19) 3. azinphos-methyl (17)	1. endosulfan (24) 2. azinphos-methyl (20) 3. chlorpyrifos (20)	1. 2,4-D (22) 2. napropamide (22) 3. sethoxydim (21)	1. napropamide (26) 2. terbacil (24) 3. 2,4-D (20)	1. captan (39) 2. benomyl (21) 3. vinclozolin (19)	1. captan (34) 2. vinclozolin (19) 3. benomyl (18)

Source: 1992 Vegetable Chemical Use Survey, Economic Research Service and National Agricultural Statistics Service, USDA.

Table reads: e.g. "Carbaryl was one of the three insecticides most commonly used by surveyed tomato producers in California and Texas who did not scout for insects. Seventeen percent of these producers used carbaryl."

1/ , N/A indicates that no other chemicals were reported used in a given category.

Table 4 -- Use of other pest control practices on surveyed farms, by crop and use of scouting, 1992

Pest control practice	Tomatoes		Lettuce		Strawberries	
	No scouting	Any scouting	No scouting	Any scouting	No scouting	Any scouting
	Percent of surveyed farms					
Hand hoeing	70	68	67	97	77	83
Mechanical cultivation	65	69	67	100	64	69
Beneficial insects	2	1	0	3	3	14
Soil testing for pests	5	14	33	3	8	17
Alternating pesticides	27	47	33	67	32	51
Adjusting planting date	7	14	0	9	5	6
Pheromone traps: control	0	8	0	3	1	4
Pheromone traps: monitor	5	14	0	6	3	6
Chemigation	2	6	0	15	8	8

Source: 1992 Vegetable Chemical Use Survey, Economic Research Service and National Agricultural Statistics Service, USDA.

Table reads: e.g. "Hand hoeing is used by 70 percent of the surveyed tomato producers who do not scout."

RTD UPDATES

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